GOVERNMENT OF INDIA
AGRICULTURE AND FARMERS WELFARE
LOK SABHA

UNSTARRED QUESTION NO:5997
ANSWERED ON:11.04.2017
Promotion of Aquaponic Agriculture
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Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether the Government is promoting aquaponic agriculture in the country;

(b) if so, the details thereof;

(c) the details of aquaponic produce grown in the country; and

(d) the details of research being conducted by the Government to scale up the method?

Answer

ANSWER
THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE:
(SHRI SUDARSHAN BHAGAT)
(a) Yes, Madam. The Marine Products Export Development Authority (MPEDA) under the Ministry of Commerce & Industry, Government of India is giving training to the potential small scale entrepreneurs for the Aquaponic system.

(b) Nearly 6000 entrepreneurs were trained for setting up of small scale Aquaponic system during 2015-16.

(c) Fish species like Tilapia, Anabas testudineus (climbing perch), vegetables like tomato, chilly, ladies finger, brinjal, spinach, capsicum and flowers like petunia, gerbera are the aquaponic produce grown in the country.

(d) The Fisheries Research Institutes under the Indian Council of Agricultural Research (ICAR), namely, the Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar and the Central Institute of Fisheries Education (CIFE), Mumbai have carried out preliminary studies on the potential of aquaponics.

The CIFA, Bhubaneswar has undertaken an aquaponic project entitled 'Development of a low cost Aquaponics System using Plastics for urban aquaculture' under the ICAR-All India Co-ordinated Research Project on Plasticulture Engineering & Technology. A nutrient film technique (NFT) aquaponics system comprising of fish culture tank, submersible water pump, trickling filter and NFT grow pipe has been designed and developed. Under the project, Anabas testudineus (climbing perch), the fish species and Basella alba plants were used as a combination in the aquaponics system. The survival and yield of fish was higher in the aquaponic system. In another experiment, the growth and survival of tilapia in the Nutrient Film Technique (NFT) type aquaponics system has been studied.

The CIFE, Mumbai and the Society for Appropriates Rural Technology for Sustainability (ARTS), Kolkata has also undertaken a project entitled 'Developing an Aquaponics and Spirulina Eco-park and Demonstrate Sustainable Models of Urban Aquaculture and Agriculture' with the funding support from the Mumbai Metropolitan Region − Environment Improvement Society (MMR-EIS). Under the project, an aquaponic unit was set up at CIFE, Mumbai. In the system, Tilapia fish and vegetables like tomato, chilly, okra, brinjal, spinach, capsicum etc. were successfully grown. Some flowers like petunia, gerbera were also grown in the aquaponic system. Further, the institute also carried out a number of projects on various aspects of aquaponics under their academic degree programmes. The aquaponics technology developed by the institute has also been transferred to an entrepreneur.

In normal aquaculture system, water gets loaded with nutrients from the fish waste and excess feed. The aquaponics offer a solution to remove the nitrogen and phosphorous compounds from the system and improves the overall efficiency of the culture system. In aquaponics system, the plants maintain the water quality by taking up the nutrients from the water and make water suitable for re-use. The aquaponic system uses less water. Water is re-cycled after absorption of nutrients by the plant in a closed-loop system. Aquaponics further economizes the conservation of water.